

PROCEEDINGS  
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NEW SPECIES OF CUCKOO WASPS BRED FROM  
TWIGS IN WESTERN NORTH AMERICA  
(HYMENOPTERA: CHRYSIDIDAE)

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The following three species of Chrysididae are described to facilitate studies on twig-nesting Hymenoptera. Repositories for type material are: University of California at Davis (UCD), at Berkeley (CIS), at Riverside (UCR); California Dept. of Agriculture (CSDA); U. S. National Museum (USNM); collection of G. R. Ferguson (Ferguson Coll.); University of Idaho (U. Idaho); Washington State University (WSU); Nevada State Dept. of Agriculture (NSDA); California Academy of Sciences (CAS); collection of J. Schuh (Schuh Coll.).

**Trichrysis deversor** Bohart, new species

*Male* (holotype): Length 8.5 mm. Body greenish blue with bluish purple on scutum and on tergites medially; sternite II with large and well-separated oval spots; wings slightly dusky, venation distinct. Pubescence pale to fulvous, moderate, inconspicuous. Punctuation moderately coarse, mostly one size, scapal basin fine cross crinkled. Head broader than long, least interocular distance two-fifths head breadth; pedicel and flagellomeres I-IV with length relationships measured in mid-ocellus diameters as follows: 1.5, 2.0, 1.8, 1.5, 1.4, flagellomere I about twice as long as broad; subantennal distance and malar space 1.2 and 1.5 mid-ocellus diameters; frontal carina strong, wavy, with two pairs of well developed posterior branches; postscutellum narrowly conical, as long dorsally as scutellum; tergite III with lateral teeth weakly and median tooth strongly, acutely projecting, median subapical carina depressed at pit row.

*Female* (paratypes): About as in male. Color bluish green to deep blue.

Holotype male, Davis, California, 6 June 1951 (R. M. Bohart, UCD). Paratypes, CALIFORNIA: 10 males, 13 females, near Bridgeport (R. Bohart, UCD); Samuel Springs, NAPA COUNTY (R. Bohart, UCD); Fort

Seward (UCD); Tracy (P. Hurd, CIS); Bullard's Bar, YUBA COUNTY (CSDA); Oakhurst (E. Linsley, CIS); College City, reared from *Trypoxylon* twig nest (F. Parker, UCD); Fairplay, EL DORADO COUNTY (V. Potts, UCD); Illinois Valley, DEL NORTE COUNTY (T. R. Haig, UCD); Oxalis (A. Telford, UCD); Wood Lake, TULARE COUNTY (N. Frazier, CIS); Tanbark Flat, LOS ANGELES COUNTY (A. McClay, UCD); Mt. Diablo, CONTRA COSTA COUNTY, reared from *Sceliphron* nests (J. MacSwain, CIS, UCD, USNM); Riverside (A. Melander, E. Schlinger, UCR); Figueroa Mt., SANTA BARBARA COUNTY (P. Marsh, UCD); SAN BERNARDINO COUNTY (N. Hardman, UCD); Miramar (UCD); NEVADA: 2 females, Ruby (J. Downey, UCD); Baker (F. Parker, UCD); OREGON: 3 males, 6 females, Corvallis (K. Gray, J. Schuh, Ferguson Coll., UCD, USNM); Gold Hill (C. Biederman, UCD); near Oakridge (J. Schuh, E. Hansen, Schuh Coll.); Scio (Ferguson Coll.); IDAHO: 1 male, 2 females, ADAMS COUNTY (W. Barr, U. Idaho); Lewiston (G. Ferguson, Ferguson Coll.); IDAHO COUNTY (W. Barr, U. Idaho); WASHINGTON: 1 female, Walla Walla (V. Argo, WSU); UTAH: 1 female, Hatton (G. Bohart, UCD).

Although closely related to *Trichrysis tridens* Lepeletier, *deversor* averages a little smaller, the postscutellum projects a little more slenderly, the median tooth of tergite III is stronger in comparison with the lateral ones, the posterior branchlets of the frontal carina are stronger, and the median carina of tergite III is distinctly depressed at the pit row in profile. The last characteristic separates it also from *mucronata* Brullé which occurs in Arizona and Mexico. Furthermore, *mucronata* is customarily more distinctly banded with purple on the tergites.

#### *Chrysis barri* Bohart, new species

*Male* (holotype): Length 5.5 mm. Body greenish to blue (purple in some paratypes); wings water clear, wing microsetae inconspicuous and pale. Pubescence mostly 1.5 ocellus diameters long, moderately thick on outer one-third of scapal basin. Punctuation moderate, slightly spaced and with smooth interspaces; scapal basin cross-striate in middle one-third, irregularly striate and punctate in lateral one-third. Head broader than long, least interocular distance slightly more than one-half width of head (10:19); pedicel and flagellomeres I to IV with length relationship measured in mid-ocellus diameters as follows: 1.9, 1.5, 1.2, 2.4, 2.1, flagellomere I about 1.5 times as long as broad; subantennal distance and malar space 1.2 and 2.1 mid-ocellus diameters respectively; ocellular distance 2.0 ocellus diameters, interocellar distance 3.2 diameters; frontal carina moderately distinct, downcurved sublaterally; ocelli not sunken nor lidded; tergite III with pits rather large and deep toward center which is a sharp and hardly depressed ridge, posterior edge thin, four teeth long, slender and sharp; median emargination semi-oval, as deep as broad, submedian one nearly as

deep as broad; lateral margin of tergite III nearly straight before strongly downturned apex.

*Female* (paratypes): About as in male. Color deep blue to purple, wings faintly smoky with brown microsetae. Head less broad, least interocular distance more than one-half head breadth (10:19); malar space about 2.2 mid-ocellus diameters; flagellomere I about 2.6 times as long as broad and nearly as long as II and III together; teeth of tergite III a little shorter, emarginations a little shallower; median length of tergite I a little more than one-half as great as breadth.

Holotype male, 10 mi. S Wendover, Nevada, 19 May 1962, on *Stanleya pinnata* (G. E. Bohart, UCD). Paratypes, 1 female, same data as holotype; 2 males, Mountain Home, Idaho, 29 May 1958 (W. F. Barr, U. Idaho, UCD); 2 females, 16 mi. NW Gerlach, Nevada, 18 August 1960 (F. D. Parker, NSDA, UCD); 2 females, Nixon, Nevada, reared from twig nest of eumenid (F. D. Parker, UCD, USNM); 1 male, Little Lake, Inyo County, California, 3 September 1956 (R. M. Bohart, UCD).

In the male the clear wings with pale microsetae together with the antennal formula and spiniform teeth of tergite III are characteristic. The teeth are prominent in the female, also, but to a lesser degree. The female resembles *derivata* superficially but the teeth are longer, the lateral margin of tergite III is downturned distally, the interocular distance is equal to about 3.0, rather than 2.1, ocellus diameters, tergite I is much shorter, and the head is considerably narrower at the malar space than at the widest point. Differences from *irwini* are given under that species.

#### ***Chrysus irwini* Bohart, new species**

*Male* (holotype): Length 5.0 mm. Body greenish blue, wings very faintly and rather uniformly smoky. Pubescence mostly not over 1.5 ocellus diameters long, rather scanty on lower face. Punctuation moderate; scapal basin almost completely punctate, substrate medially. Head broad, least interocular distance more than one-half width of head (10:19); pedicel and flagellomeres I to IV with length relationships measured in mid-ocellus diameters as follows: 2.0, 2.1, 1.2, 2.0, 1.8, flagellomere I about 1.8 times as long as broad; subantennal distance and malar space 1.0 and 1.9 midocellus diameters respectively; ocellocular distance 2.0 ocellus diameters and interocular distance about 2.5; frontal carina rather weak, downcurved sublaterally; ocelli not sunken nor lidged; tergite III with moderate pit row divided medially by a sharp carina continued from above; posterior edge thin, all four teeth rather sharply pointed, median emargination 0.6 times as deep as broad, submedian one 0.4 times; lateral margin of tergite III moderately concave.

*Female* (paratypes): Generally similar to male. Malar space 2.2 to 2.5 mid-ocellus diameters; flagellomere I about 2.5 times as long as broad, I to III with length relationships measured in mid-ocellus diame-

ters of 2.8, 2.2, 1.9; median length of tergite I a little more than one-half as great as breadth; tergite III slightly depressed subbasally and a little swollen before pit row.

Holotype male, Davis, California, 17 May 1963 (M. E. Irwin, UCD). Paratypes, 13 males and 15 females from California, May to November, as follows: Davis (M. E. Irwin, P. Paige, H. Court, E. Schlinger, UCD, USNM, U. Idaho, AMNH, KU); Boca reared from twig nest of eumenid (F. D. Parker, UCD); Meyers, El Dorado County (R. Bohart, UCD); Strawberry, Tuolumne County (T. Gantenbein, UCD); Live Oak, Sutter County (P. Marsh, UCD); Knights Landing (M. Irwin, UCD); Winters (C. G. Moore, UCD); Danville (F. X. Williams, CAS); San Antonio Valley, Santa Clara County (P. D. Hurd, CIS); Borrego (E. Schlinger, UCR). Also, 1 female paratype, Medford, Oregon, 27 September 1956 (G. Fitch, UCD).

This small species is similar to *barri* in having a fairly long male flagellomere I. In addition to its distinctive genitalia the male of *irwini* differs by the duskier wings, weaker frontal carina, more evenly concave lateral margin of tergite III, and presence of a "pre-pit-row" carina on tergite III. Both sexes have shorter teeth on tergite III and a more evenly punctate scapal basin. Also, the female has a definite bulge before the pit row and the head is proportionately broader.